

Amendments to the Specification:

Please amend the specification as follows:

Please replace paragraph starting at page 5, line 28, with the following rewritten paragraph:

In the emulsion solution preparing step 1, mixed into an organic solvent are a surfactant and a noble metal salt aqueous solution (such as dinitro-diammine Pt(II) nitric acid-acidic aqueous solution). There is then obtained reverse micellar solution including the organic solvent having diameters of about several tens of nm, respectively. As shown in FIG. 2, each reverse micelle 5 is formed into a spherical shape by virtue of the surfactant 6, and an oil phase 7 and a water phase 8 are formed outside and inside the reverse micelle 5, respectively. The water phase 8 inside the reverse micelle 5 contains a solution containing a noble metal precursor 9 made of the noble metal salt as a catalytic active component. Next, there is mixed a reducing agent "a" into the reverse micellar solution to insolubilize the noble metal precursor 9 within the reverse micelle 5 by precipitation or reduction, thereby obtaining a noble metal particle 10 as a catalytic active component brought into a fine particle state.

Please replace paragraph starting at page 6, line 16, with the following rewritten paragraph:

Similarly, mixed into an organic solvent are a surfactant and a transition metal salt aqueous solution (such as cobalt nitrate aqueous solution). There is then obtained reverse micellar solution including the organic solvent containing reverse micelles formed therein having diameters of about several tens of nm, respectively. As shown in FIG. 2, each reverse micelle 11 is formed into a spherical shape by virtue of the surfactant 12, and an oil phase 13 and a water phase 14 are formed outside and inside the reverse micelle 11, respectively. The water phase 14 inside the reverse micelle 11 contains a solution containing a transition metal precursor 15 made of the transition metal salt as a catalytic active component. Next, there is mixed a reducing agent "b" into the reverse micellar solution to insolubilize the transition metal precursor 15 within the reverse micelle 11 by precipitation or reduction, thereby obtaining a transition metal particle 16 as a catalytic active component brought into a fine particle state. Although the example where the transition metal salt aqueous solution is mixed

into the organic solvent is shown here, it is possible to additionally mix a rare earth element salt aqueous solution (such as cerium nitrate aqueous solution) as required.

Please replace paragraph starting at page 8, line 28, with the following rewritten paragraph:

The spraying step 3 is a step for spraying the emulsion solution containing catalyst precursors 19 or 21 obtained in the carrying step 2, in an inert gas atmosphere (such as nitrogen atmosphere) so as to eliminate an organic solvent, thereby obtaining a dried catalyst precursor. The reason why the spraying is conducted in an inert gas atmosphere, is that, since catalyst precursors are present within an organic solvent, and the organic solvent will catch fire when the emulsion solution containing catalyst precursors is directly sprayed into an oxidizing atmosphere at a high temperature, thereby causing nonuniformity of firing temperatures of particles of catalytic active components contained in reverse micelles. Occurrence of nonuniformity of firing temperatures causes non-uniform particle growth of catalytic active components, or oxidizes noble metal particles carried on a substrate to form a metal oxide, thereby deteriorating catalytic activities. Thus, in the spraying step 3, the emulsion solution containing catalyst precursors is sprayed within an electric furnace in an inert gas atmosphere (such as nitrogen, helium or argon atmosphere) to thereby eliminate an organic solvent. By going through the spraying step 3, it becomes possible to decrease contact between particles of catalytic active components to restrict particle growth of catalytic active components, thereby ~~enabling to avoid~~ avoiding deterioration of catalytic activities, as compared with the conventional producing method for firing after drying.

Please replace paragraph starting at page 10, line 10, with the following rewritten paragraph:

~~There will be explained materials to be used in the producing steps of the above-mentioned catalyst.~~ Materials to be used in the producing steps of the above-mentioned catalyst are explained in the paragraphs that follow.

Please replace paragraph starting at page 10, line 16, with the following rewritten paragraph:

~~Usable as the~~ The noble metal element is at least one kind of element selected from Ru, Rh, Pd, Ag, Ir, Pt, and Au exemplifying kinds of selectable noble metals, and it is possible to select an optimum ~~one~~ element among the mentioned noble metals depending on usage, kind, and ~~the like~~ other considerations of the catalyst. Further, the noble metal to be selected is not limited to one kind, and it is possible to use reverse micellar solution such that Pt salt and Rh salt are mixed into reverse micelles, for example, thereby enabling production of a catalyst which carries complex fine particles of Pt-Rh and complex fine particles with a metal oxide, on a surface of a substrate to be formed of the metal oxide. Among the mentioned noble metals, it is particularly preferable to select Pt, Pd, Rh, and the like having higher catalytic activities.

Please replace paragraph starting at page 11, line 9, with the following rewritten paragraph:

Note that although the surface area of noble metal is increased to enhance the catalytic activity when the catalytic active component is prepared from the noble metal only, this leads to an increased cost and occurrence of sintering accompanying to an increased amount of the contained noble metal. Thus, transition metal element(s) or rare earth element(s) shown hereinafter and acting as co-catalyst(s) is/are added, thereby ~~enabling to restrict~~ restricting sintering of the noble metal and to obtain a catalyst having a higher catalytic activity by virtue of interactions such as electron transfer even when the usage amount of noble metal is decreased. Particularly, when the noble metal coexists, on the substrate, with a transition metal compound which has a lower catalytic activity in itself, parts of transition metal elements are susceptible to take a reduced state. Thus, hydrogen within exhaust gas can reach up to the transition metal compound through the catalytic noble metal (spillover) under a so-called stoichiometric condition where an oxygen amount and a reductant amount are identical in ratio, for example, thereby resulting in a reducing state where activity of a catalyst for purifying exhaust gas is readily obtained. Thus, the catalyst exhibits an activity in an environment where a reducing atmosphere is provided.

Please replace paragraph starting at page 12, line 2, with the following rewritten paragraph:

Preferably usable as the transition metal element is at least one kind of metal selected from Mn, Fe, Co, Ni, Cu, Zr, Ti, W, and Zn. It is more preferable to select Mn, Fe, Co, Ni, Cu, Zn in row 4, and it is desirable to select an optimum metal among the mentioned ones depending on usage, kind, and ~~the like~~ other considerations of the catalyst. Further, the transition metal element is not limited to one kind, and it is possible to adopt reverse micellar solution containing Co salt and Cu salt in a mixed manner, thereby enabling production of a catalyst including a metal oxide having a surface carrying thereon noble metal as well as complex fine particles with Co oxide and Cu oxide.

Please replace paragraph starting at page 14, line 6, with the following rewritten paragraph:

~~Mixed into cyclohexane was polyethylene~~ Polyethylene glycol-mono-4-nonylphenyl ether was mixed into cyclohexane in a manner to achieve a molar ratio of 0.15, and added thereto was a dinitro-diamine platinum aqueous solution (Pt concentration: 8.46wt%) to finally attain a 0.5wt% of substrate, followed by stirring for 2 hours (step 30). Added to this solution was sodium borohydride (NaBH₄) until the color of the solution ~~was changed into~~ black, followed by stirring for 2 hours to subsequently prepare reverse micellar solution A (step 31).

Please replace paragraph starting at page 15, line 1, with the following rewritten paragraph:

~~Mixed into cyclohexane was polyethylene~~ Polyethylene glycol-mono-4-nonylphenyl ether was mixed into cyclohexane in a manner to achieve a molar ratio of 0.15, and added thereto was a dinitro-diamine platinum aqueous solution (Pt concentration: 8.46wt%) to finally attain a 0.5wt% of substrate, followed by stirring for 2 hours. Added to this solution was sodium borohydride until the color of the solution ~~was changed into~~ black, followed by stirring for 2 hours to subsequently prepare reverse micellar solution A.

Please replace paragraph starting at page 15, line 20, with the following rewritten paragraph:

In Example 3, a catalyst powder was created by using co-reduction based on aluminium isopropoxide (Al-isoP) clathration and by mixing [[a]] transition metal element Co.

Please replace paragraph starting at page 15, line 23, with the following rewritten paragraph:

~~Mixed into cyclohexane was polyethylene~~ Polyethylene glycol-mono-4-nonylphenyl ether ~~was mixed into cyclohexane~~ in a manner to achieve a molar ratio of 0.15, and added thereto was a dinitro-diamine platinum aqueous solution (Pt concentration: 8.46wt%) to finally attain a 0.5wt% of substrate, followed by stirring for 2 hours. Added to this solution was sodium borohydride until the color of the solution was changed ~~into~~ black, followed by stirring for 2 hours to subsequently prepare reverse micellar solution A.

Please replace paragraph starting at page 16, line 2, with the following rewritten paragraph:

~~Mixed into cyclohexane was polyethylene~~ Polyethylene glycol-mono-4-nonylphenyl ether ~~was mixed into cyclohexane~~ in a manner to achieve a molar ratio of 0.15, and added thereto was a cobalt aqueous solution obtained by dissolving cobalt nitrate in distilled water to finally attain a 0.5wt% of substrate, followed by stirring. Added to this solution was hydrazine as a reducing agent until the color of the solution was changed, followed by stirring for 2 hours to subsequently prepare reverse micellar solution B.

Please replace paragraph starting at page 16, line 25, with the following rewritten paragraph:

~~Mixed into cyclohexane was polyethylene~~ Polyethylene glycol-mono-4-nonylphenyl ether ~~was mixed into cyclohexane~~ in a manner to achieve a molar ratio of 0.15, and added thereto was a dinitro-diamine platinum aqueous solution (Pt concentration: 8.46wt%) to finally attain a 0.5wt% of substrate, followed by stirring for 2 hours. Added to this solution was sodium borohydride until the color of the solution was changed ~~into~~ black, followed by stirring for 2 hours to subsequently prepare reverse micellar solution A.

Please replace paragraph starting at page 17, line 4, with the following rewritten paragraph:

~~Mixed into cyclohexane was polyethylene~~ Polyethylene glycol-mono-4-nonylphenyl ether was mixed into cyclohexane in a manner to achieve a molar ratio of 0.15, and added thereto was a cobalt aqueous solution obtained by dissolving cobalt nitrate in distilled water to finally attain a 0.5wt% of substrate, followed by stirring. Added to this solution was hydrazine as a reducing agent until the color of the solution was changed, followed by stirring for 2 hours to subsequently prepare reverse micellar solution B.

Please replace paragraph starting at page 18, line 21, with the following rewritten paragraph:

~~Mixed into cyclohexane was polyethylene~~ Polyethylene glycol-mono-4-nonylphenyl ether was mixed into cyclohexane in a manner to achieve a molar ratio of 0.15, and added thereto was a dinitro-diamine platinum aqueous solution (Pt concentration: 8.46wt%) to finally attain a 0.5wt% of substrate, followed by stirring for 2 hours. Added to this solution was sodium borohydride until the color of the solution ~~was changed into~~ black, followed by stirring for 2 hours to subsequently prepare reverse micellar solution A.

Please replace paragraph starting at page 18, line 29, with the following rewritten paragraph:

~~Mixed into cyclohexane was polyethylene~~ Polyethylene glycol-mono-4-nonylphenyl ether was mixed into cyclohexane in a manner to achieve a molar ratio of 0.15, and added thereto was a cobalt aqueous solution obtained by dissolving cobalt nitrate in distilled water to finally attain a 0.5wt% of substrate, followed by stirring. Added to this solution was hydrazine until the color of the solution was changed, followed by stirring for 2 hours to subsequently prepare reverse micellar solution B.

Please replace paragraph starting at page 19, line 8, with the following rewritten paragraph:

~~Mixed into cyclohexane was polyethylene~~ Polyethylene glycol-mono-4-nonylphenyl ether was mixed into cyclohexane in a manner to achieve a molar ratio of 0.15, and added thereto was a cerium aqueous solution obtained by dissolving cerium nitrate in distilled water

to finally attain a 10wt% of substrate, followed by stirring to thereby prepare reverse micellar solution C.

Please replace paragraph starting at page 20, line 2, with the following rewritten paragraph:

~~Mixed into cyclohexane was polyethylene~~ Polyethylene glycol-mono-4-nonylphenyl ether was mixed into cyclohexane in a manner to achieve a molar ratio of 0.15, and added thereto was a dinitro-diamine platinum aqueous solution (Pt concentration: 8.46wt%) to finally attain a 0.5wt% of substrate, followed by stirring for 2 hours. Added to this solution was sodium borohydride until the color of the solution was changed ~~into~~ black, followed by stirring for 2 hours to subsequently prepare reverse micellar solution A.

Please replace paragraph starting at page 20, line 10, with the following rewritten paragraph:

~~Mixed into cyclohexane was polyethylene~~ Polyethylene glycol-mono-4-nonylphenyl ether was mixed into cyclohexane in a manner to achieve a molar ratio of 0.15, and added thereto was a cobalt aqueous solution obtained by dissolving cobalt nitrate in distilled water to finally attain a 0.5wt% of substrate, followed by stirring. Added to this solution was hydrazine until the color of the solution was changed, followed by stirring for 2 hours to subsequently prepare reverse micellar solution B.

Please replace paragraph starting at page 20, line 18, with the following rewritten paragraph:

~~Mixed into cyclohexane was polyethylene~~ Polyethylene glycol-mono-4-nonylphenyl ether was mixed into cyclohexane in a manner to achieve a molar ratio of 0.15, and added thereto was a lanthanum aqueous solution obtained by dissolving lanthanum nitrate in distilled water to finally attain a 10wt% of substrate, followed by stirring to thereby prepare reverse micellar solution C.